

## CLAIMS

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[cl001] 1. A curing light comprising:  
a wand for grasping by a human hand in order to manipulate the curing light, said wand having a longitudinal axis and a length  $L_W$  along its longitudinal axis,  
controls on said wand for controlling transmission of light from the curing light,  
an elongate heat sink located at least partially within said wand, said elongate heat sink having a proximal end, a distal end and a longitudinal axis therebetween, said elongate heat sink having a length  $L_H$ ,  
a mounting platform located at said elongate heat sink distal end,  
a primary heat sink mounted to said mounting platform, said primary heat sink being smaller in overall volume than said elongate heat sink,  
a well located on said primary heat sink, and  
a light emitting semiconductor device mounted in said well of said primary heat sink;  
wherein  $L_H$  is a substantial percentage of  $L_W$ .

[cl002] 2. A curing light as recited in claim 1 wherein  $L_H$  is less than about 50% of  $L_W$ .

[cl003] 3. A curing light as recited in claim 1 wherein  $L_H$  more than about 50% of  $L_W$ .

[cl004] 4. A curing light as recited in claim 1 wherein  $L_H$  is more than about 60% of  $L_W$ .

[cl005] 5. A curing light as recited in claim 1 wherein  $L_H$  more than about 70% of  $L_W$ .

[cl006] 6. A curing light as recited in claim 1 wherein  $L_H$  is more than about 80% of  $L_W$ .

[cl007] 7. A curing light as recited in claim 1 wherein  $L_H$  more than about 90% of  $L_W$ .

- [cl008] 8. A curing light as recited in claim 1 wherein  $L_H$  is more than about 90% of  $L_W$ .
- [cl009] 9. A curing light as recited in claim 1 wherein  $L_H$  is up to about 100% of  $L_W$ .
- [cl0109] 10. A curing light comprising:  
a wand for grasping by a human hand in order to manipulate the curing light, said wand having a longitudinal axis and a length  $L_W$  along its longitudinal axis,  
controls on said wand for controlling transmission of light from the curing light,  
an elongate heat sink located at least partially within said wand, said elongate heat sink having a proximal end, a distal end and a longitudinal axis therebetween, said elongate heat sink having a length  $L_H$ , and  
a light emitting semiconductor device mounted at said elongate heat sink distal end, said light emitting semiconductor device having a plurality of epitaxial layers, at least one of said epitaxial layers emitting photons when bombarded by electrons.
- [cl011] 11. A curing light as recited in claim 10 wherein  $L_H$  is less than about 50% of  $L_W$ .
- [cl012] 12. A curing light as recited in claim 10 wherein  $L_H$  more than about 50% of  $L_W$ .
- [cl013] 13. A curing light as recited in claim 10 wherein  $L_H$  is more than about 60% of  $L_W$ .
- [cl014] 14. A curing light as recited in claim 10 wherein  $L_H$  more than about 70% of  $L_W$ .
- [cl015] 15. A curing light as recited in claim 10 wherein  $L_H$  is more than about 80% of  $L_W$ .

- [cl016] 16. A curing light as recited in claim 10 wherein  $L_H$  more than about 90% of  $L_W$ .
- [cl017] 17. A curing light as recited in claim 10 wherein  $L_H$  is more than about 90% of  $L_W$ .
- [cl018] 18. A curing light as recited in claim 10 wherein  $L_H$  is up to about 100% of  $L_W$ .
- [cl019] 19. A curing light as recited in claim 10 wherein said light emitting semiconductor device is selected from the group consisting of light emitting diode chips, laser chips, light emitting diode chip array, diode laser chips, diode laser chip arrays, surface emitting laser chips, edge emitting laser chips, and VCSEL chips.